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## IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

**Akihiko Taniguchi et al**

Serial No.: 10/643,291

Filed: August 19, 2003

Art Unit: 1755

Examiner: Faison, Veronica F.

Confirmation No.: 4056

Atty. Docket No.: 501152.20019

**INK FOR INK-JET RECORDING**

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

## RESPONSE TO NOTIFICATION OF NON-COMPLIANT APPEAL BRIEF

S I R:

In response to the Notification of Non-Compliant Appeal Brief dated August 14, 2006, please reconsider the following application in light of the following comments.

## REMARKS

In response to the Notification of Non-Compliant Appeal Brief dated August 14, 2006, Applicants have attached hereto an Amended Brief on Appeal as requested. The Appeal Brief is considered to be in full compliance with 37 C.F.R. § 41.37(c).

Respectfully submitted,

Dated: August 21, 2006

By _____

Eugene LeDonne
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Attorney for Applicant

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## AMENDED BRIEF ON APPEAL

S I R:

This Amended Brief is submitted in response to Bridget C. Monroe's Notification of Non-Compliant Appeal Brief.

## 1. REAL PARTY IN INTEREST

The real party in interest in the above-identified application is the Assignee, BROTHER KOGYO KABUSHIKI KAISHA, 15-1 Naeshiro-cho, Mizuho-ku, Nagoya-shi, Aichi-ken 467-8561, as evidenced by an Assignment filed on August 19, 2003 for U.S. Application Serial No. 10/643,291.

## 2. RELATED APPEALS AND INTERFERENCES

No interference is known to the Appellant, the Appellant's legal representative, or Assignee which will directly affect, be directly affected by or have a bearing on the Board's decision in this Appeal.

## 3. STATUS OF ALL CLAIMS

The above-identified application was filed on August 19, 2003, and claims priority from Japanese Patent Application No. 2002-238520, filed August 19, 2002. The above application was filed with original claims 1-7.

It is noted that in a Response to the Office Action mailed July 8, 2005, Applicants submitted an Amendment to the Claims that was mailed on October 3, 2005. In this Amendment, Applicants amended claims 1 and 3-7, canceled Claim 2, and added new claims 8-11. Applicants then received a Final Office Action mailed on December 28, 2005. In this Final Office Action, the Examiner stated that Claims 5, 6, 9, and 10 would be allowed if rewritten in independent form including all of the limitations of the base claim and any intervening claims. On April 25, 2006, in response to this Final Office Action, Applicants submitted a Response containing no claim amendments. Applicants then received an Advisory Action on May 16, 2006. A Notice of Appeal was filed by Applicants on May 30, 2006.

As a result, claims 1 and 3-11 are previously presented. Thus, claims 1 and 3-11 remain in this application and the rejection of claims 1 and 3-11 is hereby appealed.

## 4. STATUS OF AMENDMENTS

All amendments have been entered.

## 5. SUMMARY OF INVENTION

When ink-jet recording is performed on regular paper as opposed to ink-jet paper, certain problems arise relating to printing quality. One problem is called "feathering". Application (as published), P. 1, ¶ [0007]. In this case, the ink is nonuniformly blurred along the surface of the recording paper when the ink is permeated into the recording paper. *Id.* The edges of image portions are notched, and it is impossible to obtain any sharp edge of the image portion. *Id.* Another problem is called "bleeding". *Id.* In this case, inks having different colors are mixed with each other at boundary portions where they are adjacent to one another. *Id.* As a result, both inks are blurred and printing quality is deteriorated. *Id.*

In view of the above, many techniques have been hitherto used in order to avoid feathering and bleeding so that printing quality is improved. Application (as published), P. 1, ¶ [0008]. A method, in which surface tension is increased, is widely known as a general technique for avoiding the feathering. *Id.* However, in this method, the permeation of the ink into the paper is slow. *Id.* Therefore, bleeding tends to occur on the paper surface. *Id.*

On the other hand, a method widely used to avoid bleeding comprises blending an alkyl ether of polyvalent alcohol, such as diethylene glycol monobutyl ether, as a permeating agent with an ink and/or a surfactant. Application (as published), P. 1, ¶ [0009]. However, in this method, feathering tends to occur. *Id.*

As described above, the conventional inks for ink-jet recording have a problem that it is difficult to prevent both feathering and bleeding on the regular paper. Application (as published), P. 1, ¶ [0010].

The present invention has been made in order to solve the problem as described above, an object of which is to provide an ink for ink-jet recording which makes it possible to obtain vivid recorded matters by preventing both feathering and bleeding, even when the recording is performed on regular paper. Application (as published), P. 1, ¶ [0011].

Another object of the invention is to provide an ink cartridge accommodating the ink of the invention. *Id.*

According to the present invention, there is provided an ink for ink-jet recording comprising an anionic self-dispersing type coloring agent, a surfactant having both a cationic moiety and a nonionic moiety, and water. Application (as published), P. 1, ¶ [0012]. In the ink of the present invention, a curve, which represents a change of surface tension of the ink with respect to a concentration of the surfactant, may have one inflection point. *Id.* The curve may have a first local maximum point on a low concentration side, and a second local maximum point on a high concentration side of the inflection point. *Id.* The concentration of the surfactant contained in the ink may be higher than a concentration corresponding to the first local maximum point. *Id.* The cationic moiety may be N (nitrogen), and the nonionic moiety may be ethylene oxide. *Id.* The surfactant may be an alkylamine ethylene oxide adduct represented by the Formula (1) as described later on. *Id.*

According to a second aspect of the present invention, there is provided an ink cartridge which accommodates the ink for ink-jet recording of the present invention. Application (as published), P. 1, ¶ [0013].

## 6. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL

1. Whether claims 1, 3, 4, 7, 8, and 11 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,695,900 to Momose ("Momose").

## 7. ARGUMENT

*1. Whether claims 1, 3, 4, 7, 8, and 11 are unpatentable under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,695,900 to Momose ("Momose").*

### A. SUMMARY OF RELEVANT LAW

A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.

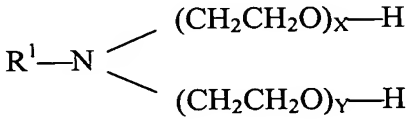
**B. MOMOSE FAILS TO EXPRESSLY OR INHERENTLY DESCRIBE EACH AND EVERY ELEMENT AS SET FORTH IN THE REJECTED CLAIMS**

On page 3 of the Final Office Action, the Examiner rejects claims 1, 3, 4, 7, 8, and 11 under 35 U.S.C. § 102(e) as being anticipated by Momose. These rejections are respectfully traversed and believed overcome in view of the following discussion.

**(1) Claims 4, 8, and 11**

The Examiner contends that Momose discloses all the limitations of Claim 4 and independent Claim 8. Office Action (12/28/05), P. 3-4. However, this assertion misconstrues the teachings of Momose. Namely, as is described in detail below, nowhere does Momose disclose the surfactant of claims 4 and 8.

Claims 4 and 8 both recite a surfactant which is an **alkylamine ethylene oxide adduct** represented by the following Formula (1):



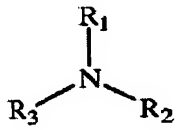
Formula (1)

wherein $R^1$ represents an alkyl group having a number of carbon atoms of 8 to 18, and X and Y represent integers which satisfy X + Y = 5 to 15. Response to 7/8/05 Office Action (10/3/05), P. 2-3.

Examiner admits that Momose fails to teach an ink composition comprising an alkylamine ethylene oxide adduct represented by Formula (1) wherein X + Y = 5 or 15. Office Action (12/28/05), P. 4. Similarly, Applicants assert that Momose also fails to teach the surfactant of Formula (1) wherein X + Y = 6 to 14. Examiner does not refute this assertion or point to any part of Momose that discloses such a surfactant.

Even, Formula (A) of Momose, one of the formulas disclosed in Momose, does not disclose Formula (1) of the current Application. Momose discloses Formula (A) as:

(A)



Wherein $R_1$ to $R_3$ each independently represents a hydrogen atom or an **alkyl or hydroxyalkyl chain** having from 1 to 8 carbon atoms, which may have a branch, provided that at least one of $R_1$ to $R_3$ is an alkyl or hydroxyalkyl chain having from 3 to 8 carbon atoms, which may have a branch. Momose, Col. 2, Lns. 47-65.

As such, each of $R_1$ to $R_3$ can only be one of sixteen different chains:

1. $CH_3$
2. $CH_2CH_3$ ($C_2H_5$)
3. $CH_2CH_2CH_3$ ($C_3H_7$)
4. $CH_2CH_2CH_2CH_3$ ($C_4H_9$)
5. $CH_2CH_2CH_2CH_2CH_3$ ($C_5H_{11}$)
6. $CH_2CH_2CH_2CH_2CH_2CH_3$ ($C_6H_{13}$)
7. $CH_2CH_2CH_2CH_2CH_2CH_2CH_3$ ($C_7H_{15}$)
8. $CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_3$ ($C_8H_{17}$)
9. $CH_2OH$
10. $CH_2CH_2OH$ ($C_2H_4$—OH)
11. $CH_2CH_2CH_2OH$ ($C_3H_6$—OH)
12. $CH_2CH_2CH_2CH_2OH$ ($C_4H_8$—OH)
13. $CH_2CH_2CH_2CH_2CH_2OH$ ($C_5H_{10}$—OH)
14. $CH_2CH_2CH_2CH_2CH_2CH_2OH$ ($C_6H_{12}$—OH)
15. $CH_2CH_2CH_2CH_2CH_2CH_2CH_2OH$ ($C_7H_{14}$—OH)
16. $CH_2CH_2CH_2CH_2CH_2CH_2CH_2CH_2OH$ ($C_8H_{16}$—OH)

Chains 1-8 are all the alkyl chains with 1 to 8 carbon atoms, and chains 9-16 are all the hydroxyalkyl chains with 1 to 8 carbon atoms. None of these sixteen chains satisfies either branch $(CH_2CH_2O)_X$—H or branch $(CH_2CH_2O)_Y$—H of claims 4 and 8.

The either X or Y from Formula (1) must be at least 3. This is because X + Y can be no less than 5 and no more than 15. When X + Y = 5, the options are:

1. X = 0, Y = **5**
2. X = 1, Y = **4**
3. X = 2, Y = **3**
4. X = **3**, Y = 2
5. X = **4**, Y = 1
6. X = **5**, Y = 0

As can be seen, either X or Y is greater than or equal to 3 at all times. Since the greatest X or Y can be is 15, either X or Y must be in the range of 3 to 15. As such, either $(CH_2CH_2O)_X$—H or $(CH_2CH_2O)_Y$—H must be one of 13 possibilities:

1. $CH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_6H_{12}O_2$—OH)
2. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_8H_{16}O_3$—OH)
3. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{10}H_{20}O_4$—OH)
4. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{12}H_{24}O_5$—OH)
5. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{14}H_{28}O_6$—OH)
6. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{16}H_{32}O_6$—OH)
7. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{18}H_{36}O_8$—OH)
8. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{20}H_{40}O_9$—OH)
9. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{22}H_{44}O_{10}$—OH)

10. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$H$ ($C_{24}H_{48}O_{11}$—OH)

11. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OH$ ($C_{26}H_{52}O_{12}$—OH)

12. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OCH_2CH_2OH$ ($C_{28}H_{56}O_{13}$—OH)

13. $CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2OCH_2CH_2O$
$CH_2CH_2OCH_2CH_2OCH_2CH_2OH$ ($C_{30}H_{60}O_{14}$—OH)

As can be seen above, none of the sixteen chain possibilities for Momose Formula (A) disclose any of the thirteen possibilities that either $(CH_2CH_2O)_X$—H or $(CH_2CH_2O)_Y$—H must be. In addition, Momose discloses the chains as being either alkyl chains or hydroxyalkyl chains, whereas Formula (1) deals with an alkylamine ethylene oxide adduct. Therefore, Momose fails to disclose the surfactant of Formula (1) wherein X + Y = 5 to 15. Thus, Momose fails to disclose each and every element as set forth in Claim 4 and independent Claim 8.

As such, Applicants respectfully assert that Examiner has failed to establish a prima facie case of anticipation of Claim 4, independent Claim 8, and corresponding Claim 11 because it is dependant from independent Claim 8. Therefore, Applicants respectfully request that Examiner's rejection of claims 4, 8, and 11 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,695,900 to Momose is improper.

**(2) Claims 1, 3, 4, and 7**

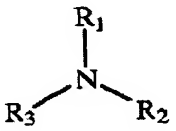
The Examiner contends that Momose discloses all the limitations of independent Claim 1. Office Action (12/28/05), P. 3-4. However, this assertion misconstrues the teachings of Momose.

In relevant part, Momose teaches:

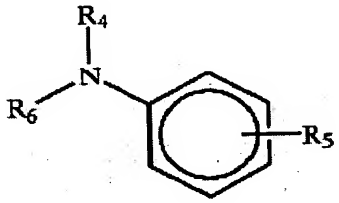
> "an aqueous ink composition comprising at least a surface-modified pigment capable of dispersing and/or dissolving in an aqueous medium without use of a dispersant, and organic amine compound represented by the following formula (A) or (B), and water."

Momose, Col. 2, Lns. 39-45. Where Formulas (A) and (B) are:

(A)




(B)




Wherein $R_1$ to $R_6$ each independently represents a hydrogen atom or an alkyl or hydroxyalkyl chain having from 1 to 8 carbon atoms, which may have a branch, provided that at least one of $R_1$ to $R_3$ is an alkyl or hydroxyalkyl chain having from 3 to 8 carbon atoms, which may have a branch. Momose, Col. 2, Lns. 47-65.

However, as is described in detail below, nowhere does Momose disclose the concentration of surfactant claimed in Claim 1, nor does Momose disclose the use of an **anionic** self dispersing coloring agent as claimed in Claim 1. Furthermore, the curve of Claim 1 is not an inherent property of the ink disclosed in Momose since Momose fails to disclose an **anionic** self dispersing coloring agent. As such Applicants respectfully assert that the Examiner's rejection stands in error.

(A) MOMOSE FAILS TO DISCLOSE AN ANIONIC SELF-DISPERSING COLORING AGENT

Independent Claim 1 begins with: "An ink for ink-jet recording comprising an **anionic** self-dispersing coloring agent...." Response to 7/8/05 Office Action (10/3/05), P. 2 (emphasis added). Momose discloses in general a surface-modified pigment capable of dispersing and/or dissolving in an aqueous medium without use of a dispersant. Momose,

Col. 2, Lns. 39-45. Never is this surface-modified pigment disclosed as being anionic, and Examiner never contends otherwise.

Rather, Examiner focuses on the portion of Claim 1 that discusses the surfactant. This overlooks an important element of Claim 1: the anionic self-dispersing coloring agent. It is important because it helps creates an anionic/cationic interaction between the anionic self-dispersing coloring agent and the cationic portion of the surfactant. This importance is clearly disclosed in the specification.

> "The ink for ink-jet recording of the present invention contains the surfactant **which exhibits the strong interaction** with the **anionic** self-dispersing type microparticulate coloring agent described above, **rather than the surfactant which is generally used as the dispersing agent.**
>
> ***
>
> "When the surfactant and the self-dispersing type microparticulate coloring agent are simultaneously contained in the ink, then the surfactant is charged δ+, and the self-dispersing type microparticulate coloring agent is charged δ-. **Accordingly, the surfactant exhibits the strong interaction with the self dispersing type microparticulate coloring agent** as compared with the surfactant which is generally used as the dispersing agent."

Application (as published), P. 2-3, ¶¶ [0022] - [0023] (emphasis added).

As a result Claim 1 requires an **anionic** self-dispersing coloring agent rather than just any self-dispersing coloring agent. Momose, on the other hand, only teaches, in general, a surface-modified pigment capable of dispersing and/or dissolving in an aqueous medium without use of a dispersant. Thus Momose is missing an important element of Claim 1.

(B) MOMOSE FAILS TO TEACH THE CLAIMED CONCENTRATION OF THE SURFACTANT

Independent Claim 1 also recites:

> "wherein a curve, which represents a change of surface tension of the ink with respect to a concentration of the surfactant, has one inflection point, the curve has a first local maximum point and a second local maximum point on a low concentration side

> and on a high concentration side of the inflection point respectively, **and a concentration of the surfactant contained in the ink is higher than a concentration corresponding to the first local maximum point."**

Response to 7/8/05 Office Action (10/3/05), P. 2 (emphasis added).

Examiner asserts that while the reference remains silent to the curve of Claim 1, Momose teaches a surfactant (Formula (A)) which meets the requirements set forth in Claim 1. Office Action (12/28/05), P. 3-4. As such, the Examiner further asserts that the compound represented by formula (A) would inherently have the same properties, and that Claim 1 is therefore anticipated by Momose. *Id.* However, these assertions overlook a limitation of Claim 1. Namely that "the concentration of the surfactant contained in the ink is higher than a concentration corresponding to the first local maximum point." This limitation correlates the concentration of the surfactant to the curve of Claim 1. Examiner admits that Momose never discloses such a curve. While the curve itself may represent an inherent property of the ink of Claim 1, the claimed concentration of the surfactant in Claim 1 is not an inherent property. Rather, the concentration is specifically claimed to be higher than a concentration corresponding to the first local maximum point of the curve.

Since Momose never discloses the curve of Claim 1, and the concentration is dependant upon that curve, it is impossible for Momose to disclose the concentration of surfactant of Claim 1.

(C) THE CURVE OF CLAIM 1 IS NOT INHERENTLY DISCLOSED BY MOMOSE

In addition, the curve of Claim 1 has its properties not only because of the surfactant used, but also because of the anionic properties of the anionic self-dispersing coloring agent used. Application (as published), P. 2-3, ¶¶ [0023-0025]. "Accordingly, ... the correlation between the surface tension and the concentration of the surfactant can be represented by a correlation curve **which has one inflection point and which has two local maximum points of curvature** on both sides of the inflection point one by one." Application (as published), P. 2, ¶ [0022].

The curve has its properties because the cationic moiety of the surfactant adheres to the anionic self-dispersing agent. Application (as published), P. 2-3, ¶¶ [0023-

0025]. Without the anionic self-dispersing coloring agent, the curve of Claim 1 is not an inherent property of the ink. Since, as discussed above, Momose fails to disclose an anionic self-dispersing coloring agent, the ink of Momose cannot inherently disclose the curve of Claim 1.

Furthermore, the MPEP contains clear instructions on establishing inherency. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art." MPEP § 2112 (quoting *Ex parte Levy*, 17 USPQ2d 1451, 1464 (Bd. Pat. App. & Inter. 1990) (emphasis in original)) (internal quotations omitted). "The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result of characteristic." MPEP § 2112 (citing *In re Rijckaert*, 9 F.3d 1531, 1534 (Fed. Cir. 1993)) (emphasis in original). "Also, '[a]n invitation to investigate is not an inherent disclosure' where a prior art reference 'discloses no more than a broad genus of potential applications or its discoveries.'" MPEP § 2112 (quoting *Metabolife Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1367 (Fed. Cir. 2004)). "'A prior art reference that discloses a genus still does not inherently disclose all species within that broad category' but must be examined to see if a disclosure of the claimed species has been made or whether the prior art reference merely invites further experimentation to find the species." MPEP § 2112 (quoting *Metabolife Labs., Inc.*, 370 F.3d at 1367).

The Examiner has provided no basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic **necessarily** flows from the teachings of the applied prior art. The only support the Examiner provides is that Momose teaches a surfactant (Formula (A)) which meets the requirements set forth by Applicant, and that the compound would inherently have the same properties. Office Action (12/28/05), P. 3-4. This overlooks the fact that the curve is dependant not only on the surfactant, but on the anionic self-dispersing coloring agent as well. Momose only discloses the broad genus of a surface-modified pigment capable of dispersing and/or dissolving in an aqueous medium without use of a dispersant. This is not an inherent disclosure of the anionic

self-dispersing coloring agent, and therefore not an inherent disclosure of the curve of Claim 1.

As such, Applicants respectfully assert that the examiner has failed to establish that Momose inherently discloses the ink of Claim 1 "a concentration of the surfactant contained in the ink is higher than a concentration corresponding to the first local maximum point."

(D) SUMMARY

Thus, Momose fails to disclose at least two elements as set forth in amended independent Claim 1: (1) The anionic self-dispersing coloring agent; (2) The concentration of the surfactant. Furthermore, the curve of Claim 1 is not an inherent property of the ink disclosed in Momose because Momose fails to disclose an anionic self dispersing agent. As such, Applicants respectfully assert that Examiner has failed to establish a prima facie case of anticipation of independent Claims 1 and corresponding claims 3, 4, and 7 because they are all dependant from independent Claim 1. Therefore, Applicants respectfully request that Examiner's rejection of claims 1, 3, 4, and 7 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,695,900 to Momose is improper.

## 8. CLAIMS APPENDIX

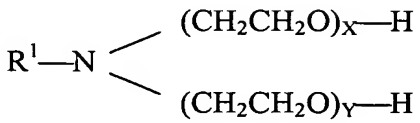
**Claim 1 (previously presented):** An ink for ink-jet recording comprising an anionic self-dispersing coloring agent, a surfactant having both of a cationic moiety and a nonionic moiety, and water;

wherein a curve, which represents a change of surface tension of the ink with respect to a concentration of the surfactant, has one inflection point, the curve has a first local maximum point and a second local maximum point on a low concentration side and on a high concentration side of the inflection point respectively, and a concentration of the surfactant contained in the ink is higher than a concentration corresponding to the first local maximum point.

**Claim 2 (canceled)**

**Claim 3 (previously presented):** The ink for ink-jet recording according to claim 1, wherein the cationic moiety is N, and the nonionic moiety is ethylene oxide.

**Claim 4 (previously presented):** The ink for ink-jet recording according to claim 1, wherein the surfactant is an alkylamine ethylene oxide adduct represented by the following general formula (1):



Formula (1)

wherein $R^1$ represents alkyl group having a number of carbon atoms of 8 to 18, and x and y represent integers which satisfy x + y = 5 to 15.

**Claim 5 (previously presented):** The ink for ink-jet recording according to claim 4, wherein x and y represent integers which satisfy x + y = 5, and an alkylamine ethylene oxide

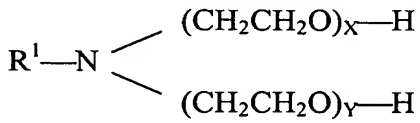
adduct represented by the formula (1) is contained by not less than 0.25% by weight.

**Claim 6 (previously presented):** The ink for ink-jet recording according to claim 4, wherein x and y represent integers which satisfy x + y = 15, and an alkylamine ethylene oxide adduct represented by the formula (1) is contained by not less than 0.15% by weight.

**Claim 7 (previously presented):** An ink cartridge which accommodates the ink for ink-jet recording as defined in claim 1.

**Claim 8 (previously presented):** An ink for ink-jet recording comprising an anionic self-dispersing coloring agent, a surfactant having both of a cationic moiety and a nonionic moiety, and water,

wherein the surfactant is an alkylamine ethylene oxide adduct represented by the following general formula (1):



Formula (1)

wherein $R^1$ represents alkyl group having a number of carbon atoms of 8 to 18, and x and y represent integers which satisfy x + y = 5 to 15.

**Claim 9 (previously presented):** The ink for ink-jet recording according to claim 8, wherein x and y represent integers which satisfy x + y = 5, and an alkylamine ethylene oxide adduct represented by the formula (1) is contained by not less than 0.25% by weight.

**Claim 10 (previously presented):** The ink for ink-jet recording according to claim 8, wherein x and y represent integers which satisfy x + y = 15, and an alkylamine ethylene oxide adduct represented by the formula (1) is contained by not less than 0.15% by weight.

**Claim 11 (previously presented):** An ink cartridge which accommodates the ink for ink-jet recording as defined in claim 8.

## 9. EVIDENCE APPENDIX

A copy of the of U.S. Patent No. 6,695,900 to Momose has been attached to this Amended Appeal Brief as Exhibit A.

## 10. RELATED PROCEEDINGS APPENDIX

Not applicable.

## 11. CONCLUSION

In view of the foregoing, it is submitted that the final rejection of the Examiner based on the art of record is improper. Accordingly, it is requested that this Board reverse the Rejection Raised by the Examiner.

Respectfully submitted,

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By _____

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# Appendix A